

REMARKS

Please note, for clarification, previously numbered claims 97-101 have been renumbered 96-100 because claim 96 was erroneously omitted in most recently filed Amendment. Additionally, by this Amendment, new claims 101 and 102 are added to more fully recite the claimed invention. Additionally, the specification is amended to correct an obvious typographical error and claims 3, 35 and 64 are amended to merely clarify the recited subject matter; support for those claim amendments is provided in the specification and support for the claim amendments to claims 3 and 35 may be particularly found at [0065] of Applicants' specification.

Applicants acknowledge the indication that claims 8, 13-15, 32, 40, 43-45, 78 and 81-83 are allowed.

The Office Action rejected claims 3-7, 9-12, 16-31, 35-39, 41-42, 46-77, 79-80 and 84-100 under 35 U.S.C. § 102 as being unpatentable over Greenstein et al. (U.S. 6,131,016; hereafter "Greenstein"). Applicants traverse the rejection because Greenstein fails to teach or suggest all the features recited in the rejected claims.

INDEPENDENT CLAIMS 3 AND 35

As discussed during the personal interview, Applicants traverse the rejection of independent claims 3 and 35 because Greenstein fails to disclose, teach or suggest the claimed features including the claimed use of a quality value for the received weighting coefficient data signaling, wherein the quality value for the weighting coefficient data signaling relates to the quality of the channel in which the weighting coefficient data is signaled from the receiver to the transmitter.

Although Greenstein discloses a processor 230, which generates the weighting coefficients, W1 and W2, those weighting coefficients and any associated quality value relate to transmission of data or signaling from the transmitter to the receiver. As a result, Greenstein fails to teach or suggest assigning a quality value to signaling from the receiver to the transmitter or subsequent use of that quality value and the signaling to determine how to change weighting coefficients in the transmitter.

INDEPENDENT CLAIMS 57, 59, 64, 69 AND 71

Greenstein fails to further disclose, teach or suggest the claimed method "wherein the transmit power of the signals to be transmitted via different transmit antenna paths is

weighted with respect to one another in the transmitter using changeable weighting coefficients determined for each transmit antenna path, wherein a transmit antenna path is implemented using an antenna structure that provides phasing; and wherein transmissions are sent from at least one antenna element with at least two different phases or antenna beams” as recited in independent claim 57.

Greenstein teaches that a receiver compares the strengths of successive received pilot tones and determines which of the channels is currently carrying the stronger tone to enable transmission of data to the transmitter that allows the transmitter to select one of the transmit antenna. (see column 4, line 52 to column 5, line 7) Alternatively, Greenstein teaches differential phase detection at the receiver and a feedback signal that constitutes quantized information about the relative phases of the two channels. The transmitter then adjusts the weights W1 and/or W2 to co-phase the downlink tones at the receiver. (see column 5, lines 7-24) Further Greenstein teaches a third alternative of the receiver performing maximal ratio combining, in which the receiver measures amplitude and phase of received pilot tones and sends information back to the transmitter that allows the adjustment of W1 and W2 in both amplitude and phase. (see column 5, lines 24-37)

Further, Greenstein fails to disclose, teach or suggest the claimed methods of independent claims 59 and 64 wherein transmit antenna paths form at least two different antenna beams, such that signals to be transmitted with different antenna beams have different parts of a space-time code, and wherein the different parts of the space-time code are weighted differently.

Greenstein fails to further disclose, teach or suggest the claimed method “wherein the transmit antenna paths are connected to at least two different transmission sectors of a base station in the radio system” as recited in independent claim 69.

Greenstein fails to further disclose, teach or suggest the claimed radio system “wherein the transmitter is configured to change the weighting coefficients determined for each transmit antenna path with respect to one another, and configured to weight the transmit power of the signals to be transmitted via different transmit antenna paths using weighting coefficients that can be changed with respect to one another” as recited in independent claim 71.

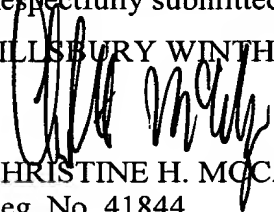
Accordingly, Applicants submit that the rejection based on Greenstein is traversed and claims 3-7, 9-12, 16-31, 35-39, 41-42, 46-77, 79-80 and 84-100 are patentable.

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Respectfully submitted,

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